

AMENDMENTS TO THE CLAIMS

1. - 42. (Cancelled)

43. An interlocking ball and socket joint comprising:

a coupling member partially formed of a resilient deformable material having a substantially smooth part spherical outer peripheral surface and having a reduced diameter neck at a side thereof opposed to the part spherical outer peripheral surface thereof;

first and second arm sections formed with operatively opposed first sockets in respective first end portions thereof, the first sockets having opposing concave interior faces shaped to substantially conform to the substantially smooth part spherical outer peripheral surface of the coupling member, and having rims formed thereabout at the faces of the respective first sockets, and indentations in the respective rims thereof which are greater in width than the neck so that the arm sections can be rotated about the coupling member to angular orientations in which the arm sections extend at a right angle to the neck of the coupling member; and

an adjustable clamp configured and arranged to provide a plurality of different adjustment relationships to the opposing concave interior faces of the first sockets,

one adjustment of the clamp conforming the opposing concave interior faces of the first sockets in a relatively rotational relationship with the coupling member, and

another adjustment of the clamp conforming the opposing concave interior faces of the first sockets in an interlocking relationship with the coupling member, wherein the opposing concave interior faces of the first sockets radially compress and deform at least a portion of the resilient deformable material of the coupling member.

44. The interlocking ball and socket joint of claim 43, further comprising:

a second coupling member partially formed of a resilient deformable material having a substantially smooth part spherical outer peripheral surface and having a projection extending outside the resilient deformable material; and

operatively opposed second sockets formed in respective second end portions of the first and second relatively rigid arm sections and having opposing concave interior faces shaped to substantially conform to the substantially smooth part spherical outer peripheral surface of the second coupling member; and

wherein:

the adjustable clamp is configured and arranged to provide a plurality of adjustment relationships to the opposing concave interior faces of the second sockets,

one adjustment of the clamp conforming the opposing concave interior faces of the second sockets in a relatively rotational relationship with the second coupling member, and

another adjustment of the clamp conforming the opposing concave interior faces of the second sockets in an interlocking relationship with the second coupling member, wherein the opposing concave interior faces of the second sockets radially compress and deform at least a portion of the resilient deformable material of the second coupling member.

45. The interlocking ball and socket joint of claim 44, further comprising a spring disposed between the first and second relatively rigid arm sections, wherein the adjustable clamp, in combination with the spring, is configured and arranged to apply differential clamping forces between the first and second sockets.

46. - 49. (Cancelled)

50. An interlocking ball and socket joint comprising:
a coupling member having a radially compressible material formed in a substantially smooth spherical shape, the coupling member further comprising having a neck portion extending outside of the radially compressible material, the neck portion having a reduced diameter relative to the substantially smooth spherical shape;

a plurality of first sockets formed in respective rigid arm sections, the first sockets having substantially smooth concave radial surfaces and having rims formed thereabout with indentations formed in the respective rims which are greater in width than the neck portion so that the rigid arm

sections can be rotated about the coupling member to angular orientations in which the rigid arm sections extend at a right angle to the neck portion of the first coupling member; and

an adjustable clamp mechanically attached to the rigid arm sections and configured and arranged to position the first sockets in a plurality of opposing relationships to one another,

one adjustment of the clamp positioning the first sockets in an opposing relationship on either side of the coupling member and relatively rotatable thereto, and

an other adjustment of the clamp positioning the first sockets in an opposing relationship on either side of the coupling member and compressing the radially compressible material thereof, such that the first sockets substantially compress the coupling member and interlock the first sockets with the coupling member in a relative angular orientation.

51. The interlocking ball and socket joint of claim 50, further comprising:
a second coupling member having a radially compressible material formed in a substantially smooth spherical shape, the second coupling member further comprising a projection extending outside of the radially compressible material;

second sockets having substantially smooth concave surfaces; and wherein:

the one adjustment of the clamp positioning the second sockets in an opposing relationship on either side of the second coupling member and relatively rotatable thereto, and

the other adjustment of the clamp positioning the second sockets in an opposing relationship on either side of the second coupling member and compressing the radially compressible material thereof to interlock the second sockets with the second coupling member in a relative angular orientation.

52. - 58. (Cancelled)

59. An interlocking ball and socket joint comprising:
a coupling member partially formed of a resilient deformable material in a substantially smooth part globular shape and having a neck portion extending outside the globular shape, the neck portion having a reduced diameter relative to the globular shape of the coupling member;

an arm assembly formed of at least two arm sections, the arm assembly having sockets formed in opposing interior surfaces thereof, the sockets being shaped to substantially conform to the substantially smooth part globular shape of the coupling member, the sockets having rims formed thereabout at the surfaces of the respective arm sections and having an indentation formed therein which is greater in width than the neck portion so that the arm assembly can be rotated about the coupling member to angular orientations in which the arm assembly extends at a right angle to the neck portion of the coupling member;

an adjustable clamp configured and arranged to provide a plurality of different adjustment relationships to the opposing interior surfaces of the sockets,

one adjustment of the clamp conforming the opposing interior surfaces of the sockets in a relatively rotational relationship with the coupling member, and

another adjustment of the clamp conforming the opposing interior-surfaces of the sockets in an interlocking relationship with the coupling member.

60. (Cancelled)

61. An interlocking ball and socket joint comprising:

a coupling member having a radially compressible material formed in a substantially unbroken spherical shape and having a projection extending outside of the spherical shape;

an arm assembly formed of at least two arm sections having sockets formed in opposing interior surfaces thereof, the sockets each having substantially smooth concave surfaces, the sockets having rims formed thereabout at the surfaces of the respective arm sections and one of the sockets having an indentation formed therein which is greater in width than the projection of the coupling member so that the arm assembly is rotatable about the coupling member to angular orientations in which the arm assembly extends at an a right angle to the projection of the coupling member; and

an adjustable clamp mechanically attached to the respective arm sections and configured and arranged to position the sockets in a plurality of opposing relationships to one another,

one adjustment of the clamp positioning the sockets in an opposing relationship on either side of the coupling member and relatively rotatable thereto, and

another adjustment of the clamp positioning the sockets in an opposing relationship on either side of the coupling member and compressing the radially compressible material thereof to interlock the sockets with the coupling member in a relative angular orientation.

62. The interlocking ball and socket joint of claim 43 wherein the coupling member is substantially centered on a first locus; and

the first and second arm sections form a bifurcated arm assembly having an apex at a second locus spaced apart from the first locus and having the first sockets substantially centered on the first locus and engaged about the coupling member.

63. An interlocking ball and socket joint comprising:
a coupling member partially formed of a resilient deformable material in a substantially smooth part spherical shape centered on a first locus and having a neck portion extending outside the spherical shape;
a split arm assembly comprising at least two arm sections and having first sockets formed of opposing concave interior surfaces centered on the first locus, the opposing concave interior surfaces being shaped to substantially conform to the substantially smooth part spherical shape of the coupling member and being engaged about the coupling member, the first sockets having rims formed thereabout at the surfaces and indentations in the respective rims thereof, the indentations are greater in width than the neck portion so that the split arm assembly is rotatable about the first locus of the coupling member to angular orientations in which the split arm assembly extends at a right angle to the neck portion of the coupling member; and

an adjustable clamp coupled to the split arm assembly, the adjustable clamp being configured and arranged to provide a plurality of different adjustment relationships to the first sockets,

one adjustment of the clamp conforming the first sockets in a relatively rotational relationship with the coupling member, and

another adjustment of the clamp conforming the first sockets in an interlocking relationship with the coupling member.

64 - 66. (Canceled)

67. The interlocking ball and socket joint of claim 43 wherein the adjustable clamp further comprises mutually engageable internally and externally threaded members.

68. The mounting device according to claim 67 wherein the externally threaded member further comprises a threaded rod, and the mutually engageable internally and externally threaded members are structured for relative rotational motion for moving the internally threaded member along a length of the externally threaded member.

69. The mounting device according to claim 68 wherein the internally threaded member further comprises a knob.

70. A mounting device, comprising:

a coupling member comprising a substantially spherical head and a neck extending from the head, the spherical head comprising a substantially smooth outer surface of resilient deformable material;

a plurality of arm sections, at least two of the arm sections forming first sockets at end portions of the respective arm sections, the first sockets comprising rims formed at faces of the first sockets, the rims defining indentations which are greater than a width of the neck of the coupling member so that the arm sections can be rotated about the coupling member to angular orientations in which the arm sections extend at a right angle to the neck of the coupling member; and

an adjustable clamp coupled to at least two of the plurality of arm sections, the adjustable clamp being configured and arranged to provide a plurality of positions, wherein, in a first position of the adjustable clamp, the first sockets and first coupling member are rotatably engaged, and in a second position of the adjustable clamp, the first sockets and first coupling member are interlocked, with the first sockets deforming the resilient deformable material of the head of the first coupling member.

71. The mounting device of claim 70, wherein the arm sections are not all identically shaped.

72. The mounting device of claim 70, wherein the first sockets are two opposing first sockets.

73. The mounting device of claim 70, wherein a first one of the arm sections is smaller than a second one of the arm sections and wherein the first one and the second one of the arm sections form the first sockets.

74. The mounting device of claim 73, wherein the first one of the arm sections is hingedly secured to the second one of the arm sections.

75. The mounting device of claim 70, wherein the mounting device comprises at least three arm sections.

76 - 81. (Cancelled)

82. The mounting device of claim 70, wherein the resilient deformable material of the coupling member is an elastomeric material.

83. The mounting device of claim 82, wherein the elastomeric material comprises nitrile rubber.

84. The mounting device of claim 70, wherein the head of the coupling member has a Shore A durometer of between 30-100.

85. The mounting device of claim 70, wherein the head of the coupling member has a Shore D hardness of between 40 and 70.

86. The mounting device of claim 70, wherein the coupling member further comprises a disc-shaped base coupled to the neck.

92. The method of claim 91, further comprising adjusting the adjustable clamp so that the first sockets and first coupling member are interlocked, with the first sockets deforming the resilient deformable material of the head of the first coupling member, and the second sockets and second coupling member are rotatably engaged.

93. The method of claim 91, further comprising adjusting the adjustable clamp so that the first sockets and first coupling member are rotatably engaged, but the first coupling member is not removable from the first sockets, and then removing the second coupling member from the second sockets.

94. A method of operating a mounting device, the method comprising:

providing a mounting device comprising

a first coupling member comprising a substantially spherical head and a neck extending from the head, the spherical head comprising a resilient deformable material;

a base comprising a second coupling member, the second coupling member comprising a substantially spherical head and a neck extending from the head, the spherical head comprising a resilient deformable material;

a plurality of arm sections, at least two of the arm sections forming first sockets at end portions of the respective arm sections and at least two of the arm sections forming second sockets at end portions of the respective arm sections, the first and second sockets comprising substantially smooth interior surfaces; and

an adjustable clamp coupled to at least two of the plurality of arm sections;

adjusting the adjustable clamp so that the first sockets and first coupling member are interlocked, with the first sockets deforming the resilient deformable material of the head of the first coupling member, and the second sockets and second coupling member are interlocked, with the

second sockets deforming the resilient deformable material of the head of the second coupling member; and

adjusting the adjustable clamp so that the first sockets and first coupling member are rotatably engaged, wherein the first coupling member is not removable from the first sockets and the second coupling member is removable from the second sockets.